



Uva Wellassa University, Sri Lanka
Faculty of Science and Technology
Mineral Resources and Technology Degree Programme
2nd Semester Examination – September/October 2013



MRT 311-2 - Physics and Chemistry of Minerals

Part B

5.

- a. When can we use colour as an identifying tool for minerals? (05 marks)
- b. Given an absorption spectrum, how can we determine the colour a mineral will possess? (05 marks)
- c. What are the four primary mechanisms that cause colour in minerals? Describe these. (12 marks)

6.

- a. How do pressure (P) and temperature (T) affect solid solution formation? (04 marks)
- b. Discuss the compositional variations between end members and describe substitutions of the major cations in the following mineral groups. (08 marks)
 - i. feldspars
 - ii. pyroxenes
 - iii. olivines

7. Discuss how following mineral physical properties may be determined or controlled by crystal structure and/or chemical composition. Give specific mineral examples for each.

- a. hardness
- b. cleavage
- c. melting point
- d. density (specific gravity)
- e. tenacity

(Total 12 marks)